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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/836,711	04/17/2001	Shinya Watanabe	114G1-144	7093

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EXAMINER

EGAN, BRIAN P

ART UNIT	PAPER NUMBER
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1772

DATE MAILED: 05/15/2003

9

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/836,711

Applicant(s)

WATANABE ET AL.

Examiner

Brian P. Egan

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 February 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☒ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-9, 11-14, and 16-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over WO 00/19792 (hereinafter WO '792) in view of Yoshida et al. (#5,827,445).

WO '792 discloses a high current suppression shield having a sheet shape (Fig. 8) and comprising an adhesive layer (Fig. 8, #17) on at least one surface of a magnetic thin film. The magnetic thin film is provided on one surface of a film or sheet form substrate composed of a synthetic resin (Fig. 8, #15; see also Translation p. 2, paragraph [0016]). The adhesive layer is provided on one surface of the magnetic thin film with the substrate interposed therebetween (see Fig. 8). The magnetic thin film is provided on one surface of a film or sheet form substrate so that the magnetic thin film can be peeled away from the substrate (Fig. 8, #13).

WO '792 further teaches functionally equivalent magnetic compositions that may be used including iron, iron oxide, nickel, cobalt, ferrosilicon, permalloy, ferrite, sendust, amorphous alloy, and carbon (Translation p. 2, paragraph [0016]) but fails to teach the specific M-X-Y composition as claimed by the Applicant.

Yoshida et al., however, teach a composite magnetic article for electromagnetic interference suppression wherein the magnetic loss material is in granular form (Col. 4, lines 3-4) and is selected from the group consisting of Sendust, Permalloy, amorphous alloys, and other

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metallic soft magnetic materials (which would include any of the functionally equivalent materials taught by WO '792) (Col. 3, line 66 to Col. 4, line 2). The magnetic loss material is dispersed in a dielectric layer selected from the group consisting of AlO_x and SiO_x (Col. 4, lines 59-67). The magnetic loss material has a large magnetic loss and has a high imaginary part permeability over a wide high frequency range and variable or adjustable magnetic resonance frequencies within a broadened frequency range (Col. 1, lines 36-41; Col. 2, lines 42-47).

Yoshida et al. further teach that varying annealing treatments are used to modify the magnetic resonance frequency (Col. 4, lines 38-41). The magnetic resonance frequency exceeds 10 MHz (see Table 1 (Col. 8)). The magnetic article is formed into any desired shape using known mixing and shaping apparatuses (Col. 5, lines 19-23) and the granular magnetic powder has an average thickness less than the thickness of the skin layer (see Abstract). The Examiner agrees with the Applicant's contentions that the magnetic properties of a material are affected by more than just the compositional chemistry of the magnetic material. Yoshida et al. teach more than just an equivalence in the compositional chemistry, however – Yoshida et al. teach an equivalent physical chemistry (i.e., a granular ferrous component dispersed in a matrix of AlO or SiO) and further teach that the size of the magnetic material is modified such that it is thinner than the skin layer as noted above – both characteristics detailed by the Applicant in their remarks as being applicable to a material's magnetic properties. Therefore, it would have been obvious to one of ordinary skill in the art at the time Applicant's invention was made to have modified the size of the granular magnetic material (using any known mixing and shaping apparatus as noted above), to have modified the granular material with any functionally equivalent magnetic material as detailed above, and/or to select an annealing treatment depending on the desired end magnetic

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resonance frequency such that the magnetic material falls within the Applicant's claimed ranges of the magnetic loss factor, saturation magnetization, magnetic material thickness, DC electric resistivity, mean particle diameter, and anisotropic magnetic field, since it has been held both that discovering an optimum value of a result effective variable involves only routine skill in the art, *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980), and a change in size is generally recognized as being within the level of ordinary skill in the art. *In re Rose*, 105 USPQ 237 (CCPA 1955). Yoshida et al. teach the use of the aforementioned magnetic loss material for the purpose of providing a magnetic article with an improved complex permeability at a high frequency band adaptable for an electromagnetic interference suppressor. Thus, it would have been obvious through routine experimentation to one of ordinary skill in the art to have used a granular magnetic material in a magnetic thin film for the purpose of providing a magnetic article with an improved complex permeability at a high frequency band adaptable for an electromagnetic interference suppressor as taught by Yoshida et al.

Therefore, it would have been obvious to one of ordinary skill in the art at the time Applicant's invention was made to have modified WO '792 by using a granular magnetic material as taught by Yoshida et al. in order to provide a magnetic article with an improved complex permeability at a high frequency band adaptable for an electromagnetic interference suppressor.

3. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over WO '792 in view of Yoshida et al. ('445), and further in view of *IEEE Transactions on Magnetics*.

WO '792 and Yoshida et al. teach a high-frequency current suppression body as detailed above. The aforementioned prior art fails, however, to teach a sputtered or vacuum deposited

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thin film layer. *IEEE Transactions on Magnetics*, however, teach that it is notoriously well known in the art to form a magnetic material layer by sputtering (p.4499, Col. 2, Sec. III "Results and Discussion"). Sputtering is used for the purpose of providing stoichiometric compositions. Thus, it would have been obvious through routine experimentation to one of ordinary skill in the art at the time Applicant's invention was made to have modified the formation process of a magnetic thin film such that it is applied via a sputtering technique for the purpose of providing a stoichiometric composition as taught by *IEEE Transactions on Magnetics*.

Therefore, it would have been obvious to one of ordinary skill in the art at the time Applicant's invention was made to have modified that aforementioned prior art by applying the thin film via a sputtering technique as taught by *IEEE Transactions on Magnetics* in order to provide a stoichiometric composition.

Response to Remarks

4. Pursuant to the Applicant's remarks and amended claims, the Examiner has withdrawn the 35 U.S.C. 112, second paragraph rejections from the previous office action.

5. Applicant's arguments with respect to the 35 U.S.C. 102 and 103 rejections from the previous office action have been considered but are moot in view of the new ground(s) of rejection.

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Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian P. Egan whose telephone number is 703-305-3144. The examiner can normally be reached on M-F, 8:30-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Harold Y. Pyon can be reached on 703-308-4251. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.

BPE
May 14, 2003



HAROLD PYON
SUPERVISORY PATENT EXAMINER

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5/14/03